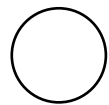
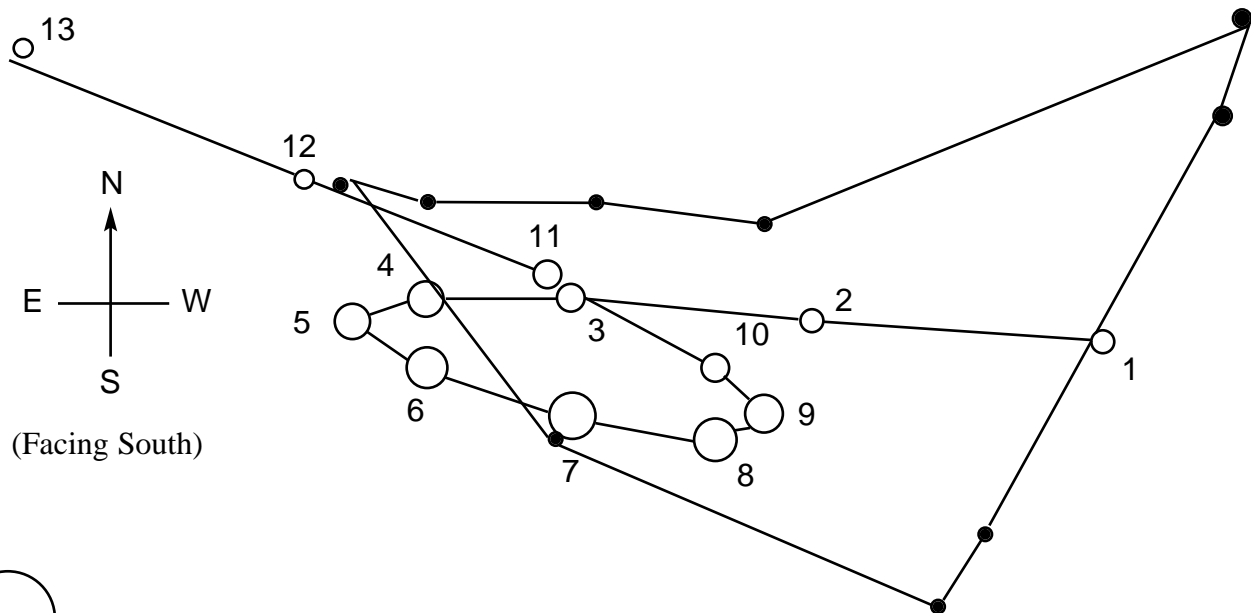


Mars Motion in 1971

During the summer of 1971, Earth passed closer to Mars than it had since 1924. Not until 2003 will our planet be closer to Mars than it was in August 1971.

CAPRICORNUS



Open circles show the positions of Mars in the constellation Capricornus, beginning May 13, 1971. Stars are solid black circles; their sizes indicate their brightness.

Sizes of the open circles indicate the changing size of Mars as seen through a telescope. Mars also became brighter as it increased in size. The numbers by or in the circles correspond to the dates listed below.

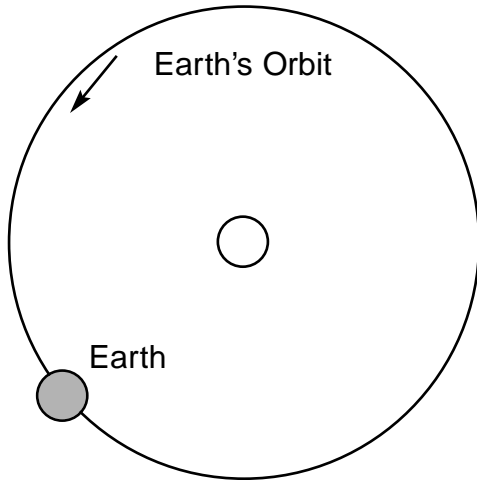
Number	Date	Distance from Earth	Apparent Magnitude (*Brightness)
1	May 13	75 million miles	-0.4
2	May 28	64	-0.7
3	June 12	55	-1.2
4	June 27	47	-1.6
5	July 12	41	2.1
6	July 27	36	-2.4
7	August 11	35	-2.6
8	August 26	36	-2.4
9	September 10	40	-2.1
10	September 25	46	-1.6
11	October 10	54	-1.2
12	October 23	63	-0.6
13	November 9	72	-0.5

*The higher the negative number, the brighter Mars appeared.

Explaining Retrograde Motion of Mars

Instructions

1. Make a transparency of this page.
2. Cut along the dotted line.
3. Cut out Earth's orbit, being sure not to cut away the circle or the planet.
4. Superimpose the circle in the center of Earth's orbit over the sun. Use tape to hold the two images in this position.
5. Place the transparencies over the hole of a tape dispenser so the dots are in the center of the hole.
6. Push the awl through the dots to make a hole large enough to insert the snap. Be sure there is enough clearance so that Earth's orbit can be turned freely around the sun.



Cut along this line.

Retrograde Motion of Mars as Seen from Earth

